

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. – 14. (Cancelled)
15. (Currently amended) A SiGe-containing structure comprising:
a substrate,
a SiGe layer disposed over a first surface of said substrate, and
a stress engineering layer comprising at least one of silicide and germanide disposed over a second surface of said substrate, a surface of the stress engineering layer distal from the second surface of the substrate being exposed,
wherein the stress engineering layer increases a tensile strain of the SiGe layer.
16. (Original) The SiGe-containing structure of claim 15, wherein said substrate comprises Si.
17. (Cancelled)
18. (Previously presented) The SiGe-containing structure of claim 15, wherein said stress engineering layer comprises at least one of C54-TiSi₂, CoSi₂, and C54-TiGe₂.
19. (Previously presented) The SiGe-containing structure of claim 15, wherein said stress engineering layer allows L-band photo-detection of said SiGe layer.
20. (Previously presented) The SiGe-containing structure of claim 15 further comprising a dielectric layer disposed over said SiGe layer.
21. (Previously presented) A Ge-containing structure comprising:
a substrate;
a Ge layer disposed over a first surface of said substrate; and

a stress engineering layer comprising at least one of silicide and germanide disposed over a second surface of said substrate, a surface of the stress engineering layer distal from the second surface of the substrate being exposed, and the second surface of said substrate being opposite the first surface of said substrate.

wherein the stress engineering layer increases a tensile strain of the Ge layer.

22. (Original) The Ge-containing structure of claim 21, wherein said substrate comprises Si.

23. (Cancelled)

24. (Previously presented) The Ge-containing structure of claim 21, wherein said stress engineering layer comprises at least one of C54-TiSi₂, CoSi₂, and C54-TiGe₂.

25. (Previously presented) The Ge-containing structure of claim 21, wherein said stress engineering layer allows L-band photo-detection of said Ge layer.

26. (Previously presented) The Ge-containing structure of claim 21 further comprising dielectric layer disposed over said Ge layer.

27. (Currently amended) A photodetector comprising a Ge-containing structure ~~produced in accordance to claim 1~~ by:
providing a substrate having a first and a second surface;
forming a layer comprising Ge over said first surface; and
forming a stress engineering layer over said second surface, a surface of the stress engineering layer distal from the second surface of the substrate being exposed, and the second surface of said substrate being opposite the first surface of said substrate.

wherein the stress engineering layer increases a tensile strain of the Ge-containing layer.

28. (Currently amended) An optical modulator comprising a Ge-containing structure ~~produced in accordance to claim 1~~ by:

providing a substrate having a first and a second surface;

forming a layer comprising Ge over said first surface; and
forming a stress engineering layer over said second surface, a surface of the stress
engineering layer distal from the second surface of the substrate being exposed, and the second
surface of said substrate being opposite the first surface of said substrate,
wherein the stress engineering layer increases a tensile strain of the Ge-containing layer.

29. – 33. (Cancelled)